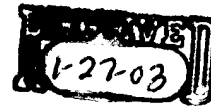


8/13/03
2/10/03IN THE CLAIMS

1. (Amended) A method for managing channel assignment in a wireless communication system having a plurality of cells, each cell having a predetermined frequency band for use in establishing communication connections, said method comprising the steps of:

dividing the predetermined frequency band into a plurality of frequency sub-bands within at least one of the plurality of cells;

implementing a multiple access scheme within each of said plurality of frequency sub-bands;

specifying a power range for each of said plurality of frequency sub-bands, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands, wherein at least two of said plurality of frequency sub-bands are assigned power ranges that are different from one another;

ascertaining a power level associated with a first communication connection in the wireless communication system;

identifying at least one of said plurality of frequency sub-bands within the at least one cell that has a power range encompassing said power level; and

assigning a channel within said at least one of said plurality of frequency sub-bands that has said power range encompassing said power level to said first communication connection.

7. (Amended) A system for providing wireless communication between a communication platform and a plurality of subscribers, said system comprising:

a predetermined frequency band for providing said wireless communication from a wireless cell, said predetermined frequency band being divided into a plurality of frequency sub-bands that are each capable of supporting a plurality of communication channels;

means for specifying a power range for each of said plurality of frequency sub-bands within the wireless cell, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands;

means for determining a power level associated with a wireless connection between said communication platform and one of the plurality of subscribers;

means for selecting at least one of said plurality of frequency sub-bands within the wireless cell that has a power range encompassing said power level determined by said means for determining; and

means for assigning a channel within said at least one of said plurality of frequency sub-bands within the wireless cell that has said power range encompassing said power level determined by said means for determining to said wireless connection for use in providing wireless communication between said communication platform and said one of said plurality of subscribers.

12. (Amended) A method for providing multiple access communications between a first location and a second location, said method comprising the steps of:

providing a predetermined frequency band for a wireless cell for use in establishing communication connections between said first location and said second location;

segmenting said predetermined frequency band within the wireless cell into a plurality of frequency sub-bands;

providing a multiple access scheme within each of said plurality of frequency sub-bands;

specifying a power range for each of said plurality of frequency sub-bands, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands; and

limiting communication within each of the plurality of frequency sub-bands to signals having a power level within said power range.

21. (Amended) A method for providing multiple access communications between a first location and a second location, said method comprising the steps of:

- providing a predetermined frequency band for a wireless cell for use in establishing communication connections between said first location and said second location;
- dividing said predetermined frequency band within the wireless cell into a plurality of independent communication channels using at least two different multiple access methods;
- separating said plurality of independent communication channels into a plurality of channel groups;
- specifying a power range for each of said plurality of channel groups, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of channel groups; and
- limiting communication within each of the plurality of channel groups to signals having a power level within said power range.

REMARKS

In the Final Office Action mailed on October 24, 2002 by the United States Patent and Trademark Office, the Examiner continued to reject all pending claims. By way of this Amendment and Response, the Applicants have amended claims 1, 7, 12 and 21. Claims 1-10, 12, 14-17, and 19-25 remain currently pending in the above-identified patent application. The foregoing amendments and the following remarks are believed to be fully responsive to the Final Office Action and also render all currently pending claims at issue patentably distinct over the references of record.

REJECTIONS UNDER 36 U.S.C. § 103

The Final Office Action rejects all pending claims under 35 USC § 103, citing the combination of U.S. Patent No. 5,749,044 ("Natarajan") and US Patent No. 5,341,397

("Gudmundson"). Applicants respectfully traverse these rejections in that even the cited combination of references fails to disclose each and every limitation of the present claims.

In the Final Office Action (as well as in the Advisory Action mailed on December 13, 2002), the Examiner has indicated that Applicant's prior arguments were not applicable because the then-pending claims did not recite that the frequency allocation takes place within a cell. Applicant has amended each of the independent claims to clarify this limitation. Applicant therefore intends the present amendments as clarifying, and not narrowing, the scope of the invention and does not intend to surrender any range of equivalents that may be available for the resulting claims.

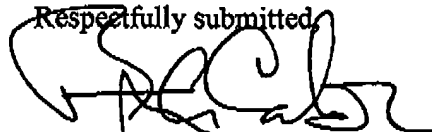
Because the "within a cell" limitation is now expressly found in each of the claims, the Examiner is respectfully requested to re-consider Applicant's arguments set forth in the Response to Office Action filed on July 24, 2002 and in the Request for Reconsideration filed on December 2, 2002. Specifically, Applicant continues to maintain that the Natarajan Reference (which is assigned to the same entity as the present application) generally discloses a technique for determining a best cell (from several available cells) for servicing a channel request from a subscriber unit. The Gunderson reference generally relates to a technique of assigning a separate frequency to each unique type of cell (e.g. umbrella cells, microcells, etc.) to reduce the total amount of interference present in the system (see, e.g., Gunderson col. 4, lines 56-69). In contrast to the teachings of the cited references, the present claims recite that power ranges are specified for each of the sub-bands within a cell. A power level associated with the connection is used to assign the connection to a channel in a sub-band having a power range that encompasses the power level of the signal. Thus, each sub-band carries communications having similar power levels and communications capacity within each sub-

band. Therefore, the rejections are unsupported by the references of record, and the Applicants respectfully request withdrawal of the rejection under 35 U.S.C. 103.

Applicants therefore submit that the application as amended is now in condition for allowance and such allowance is therefore earnestly requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the undersigned at (480) 385-5060.

Dated January 24, 2003

Respectfully submitted,



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Customer No. 29,906

CLEAN VERSION OF AMENDED CLAIMS

1. A method for managing channel assignment in a wireless communication system having a plurality of cells, each cell having a predetermined frequency band for use in establishing communication connections, said method comprising the steps of:

dividing the predetermined frequency band into a plurality of frequency sub-bands within at least one of the plurality of cells;

implementing a multiple access scheme within each of said plurality of frequency sub-bands;

B1 specifying a power range for each of said plurality of frequency sub-bands, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands, wherein at least two of said plurality of frequency sub-bands are assigned power ranges that are different from one another;

ascertaining a power level associated with a first communication connection in the wireless communication system;

identifying at least one of said plurality of frequency sub-bands within the at least one cell that has a power range encompassing said power level; and

assigning a channel within said at least one of said plurality of frequency sub-bands that has said power range encompassing said power level to said first communication connection.

7. A system for providing wireless communication between a communication platform and a plurality of subscribers, said system comprising:

B2 a predetermined frequency band for providing said wireless communication from a wireless cell, said predetermined frequency band being divided into a plurality of frequency sub-bands that are each capable of supporting a plurality of communication channels;

means for specifying a power range for each of said plurality of frequency sub-bands within the wireless cell, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands;

means for determining a power level associated with a wireless connection between said communication platform and one of the plurality of subscribers;

means for selecting at least one of said plurality of frequency sub-bands within the wireless cell that has a power range encompassing said power level determined by said means for determining; and

B2 means for assigning a channel within said at least one of said plurality of frequency sub-bands within the wireless cell that has said power range encompassing said power level determined by said means for determining to said wireless connection for use in providing wireless communication between said communication platform and said one of said plurality of subscribers.

12. A method for providing multiple access communications between a first location and a second location, said method comprising the steps of:

B3 providing a predetermined frequency band for a wireless cell for use in establishing communication connections between said first location and said second location;

segmenting said predetermined frequency band within the wireless cell into a plurality of frequency sub-bands;

providing a multiple access scheme within each of said plurality of frequency sub-bands;

specifying a power range for each of said plurality of frequency sub-bands, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of frequency sub-bands; and

limiting communication within each of the plurality of frequency sub-bands to signals having a power level within said power range.

21. A method for providing multiple access communications between a first location and a second location, said method comprising the steps of:

providing a predetermined frequency band for a wireless cell for use in establishing communication connections between said first location and said second location;

dividing said predetermined frequency band within the wireless cell into a plurality of independent communication channels using at least two different multiple access methods;

separating said plurality of independent communication channels into a plurality of channel groups;

specifying a power range for each of said plurality of channel groups, said power range representing a range of signal powers that are to be supported by one of a plurality of channels within each of said plurality of channel groups; and

limiting communication within each of the plurality of channel groups to signals having a power level within said power range.